PSEUDOTSUGA MENZIESII – THUJA PLICATA / GAULTHERIA SHALLON – MAHONIA NERVOSA / POLYSTICHUM MUNITUM

Douglas-fir – western redcedar / salal –
dwarf Oregongrape / sword fern
Abbreviated Name: PSME-THPL/GASH-MANE/POMU
Synonym: *Pseudotsuga menziesii – Thuja plicata / Gaultheria shallon – Berberis nervosa / Polystichum munitum*

Sample size = 16 plots

DISTRIBUTION: In Washington, this association occurs only in the Olympic rainshadow area of San Juan, western Skagit, western Whatcom (Lummi Island), eastern Clallam, northeastern Jefferson, and central to northern Island counties. It also occurs in adjacent British Columbia on the Gulf Islands and southeastern Vancouver Island.

GLOBAL/STATE STATUS: G1S1. Throughout its range much of this association has been converted to residential development and agriculture, or if not, then almost all the remainder has been heavily disturbed by past logging. It has a very limited global range. There are only about 5 high-quality occurrences known in Washington, all of which are relatively small. Threats include non-native species and further development.

ID TIPS: Located in the Olympic rainshadow *and* western hemlock <25% cover *and* the combined cover of western redcedar and grand fir is greater than that of hemlock. Western redcedar always occupies >10% cover or is the dominant tree regeneration. Salal occupies >10% cover or dwarf Oregongrape occupies >5% cover. Sword fern occupies >5% cover.

ENVIRONMENT: These sites are moderately dry to mesic and appear to be relatively nutrient-rich. Sites are flat to fairly steep (usually gentle) on a variety of aspects. Slope positions tend to be neutral with regard to moisture. Parent materials apparently all have restrictive layers of till or bedrock and include glacial till, residuum (including ultramafics), and colluvium. Soil textures range from silt loam to sandy loam (loam most common), with abundant gravelly or stony components. Found mostly in areas with a very dry climate.

Precipitation: 20-40 inches (mean 29)
Elevation: sea level - 600 feet
Aspect/slope: various/ 0-70% (mean 22)

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Vegetation Composition Table (selected species):
Con = constancy, the percent of plots within which each species was found;
Cov = cover, the mean crown cover of the species in plots where it was found;
+ = trace (< 0.5% cover).

Trees	**Kartesz 2005 Name**	**Con**	**Cov**
Douglas-fir	Pseudotsuga menziesii var. menziesii	100	50
western redcedar	Thuja plicata	100	40
western hemlock	Tsuga heterophylla	75	12
grand fir	Abies grandis	56	28
bigleaf maple	Acer macrophyllum	38	12
Shrubs and Dwarf-shrubs			
salal	Gaultheria shallon	88	24
dwarf Oregongrape	Mahonia nervosa	75	16
red huckleberry	Vaccinium parvifolium	75	3
oceanspray	Holodiscus discolor	69	4
trailing blackberry	Rubus ursinus ssp. macropetalus	69	2
baldhip rose	Rosa gymnocarpa	56	2
orange honeysuckle	Lonicera ciliosa	50	1
English holly	Ilex aquifolium	31	+
Indian plum	Oemleria cerasiformis	31	+
Rocky Mountain maple	Acer glabrum var. douglasii	13	13
Graminoids			
Coast Range fescue	Festuca subuliflora	56	3
Columbia brome	Bromus vulgaris	31	+
Forbs and Ferns			
sword fern	Polystichum munitum	100	13
western starflower	Trientalis borealis ssp. latifolia	69	3
sweet-scented bedstraw	Galium triflorum	56	1
twinflower	Linnaea borealis ssp. longiflora	50	3
threeleaf foamflower	Tiarella trifoliata var. trifoliata	50	1
bracken fern	Pteridium aquilinum var. pubescens	31	1
spreading woodfern	Dryopteris expansa	31	+

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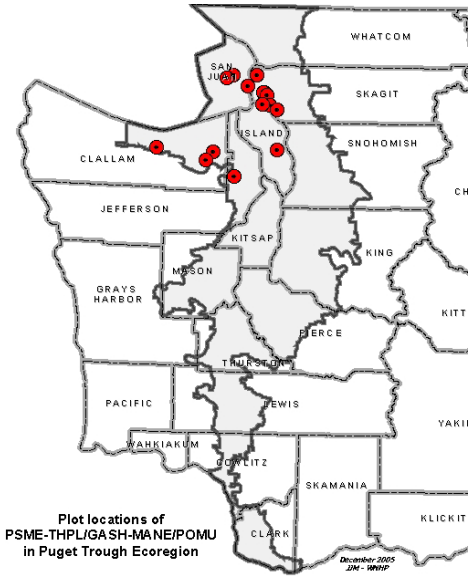

Plot locations of PSME-THPL/GASH-MANE/POMU in Puget Trough Ecoregion

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Slope position: mid, short, lower, plain, upper
Soil series: Fidalgo, Roche, Whistle, Terbies, Guemes, Bow, Beausite, Alderwood

DISTURBANCE/SUCCESSION: Fire is the primary natural disturbance. Old-growth stands show evidence of past low- to moderate-severity fire (underburns). Western redcedar, and if present, grand fir, increase over time in the absence of disturbance, Douglas-fir decreases, though still remains prominent after hundreds of years. When western hemlock occurs in this association, it appears to be less competitive than redcedar and grand fir, and to survive less well in the long-term, probably due to its lesser drought-tolerance.

VEGETATION: Canopy dominated by Douglas-fir, western redcedar (always present), and/or grand fir. Western redcedar and/or grand fir dominates tree regeneration. Western hemlock is usually present in small amounts, and can be prominent in the understory or lower canopy layers. Bigleaf maple is sometimes prominent in the lower canopy. Salal and/or dwarf Oregongrape dominate or co-dominate the understory. Rocky Mountain maple is occasionally prominent as a tall shrub or small tree. Other shrubs frequently present are red huckleberry, oceanspray, trailing blackberry and baldhip rose. Sword fern is always prominent to dominant in the herb layer but never reaches very high cover values (usually <35%). Western starflower, sweet-scented bedstraw, Coast Range fescue, twinflower, and foamflower are frequently occurring herbs.

CLASSIFICATION NOTES: A very similar association was first described in the U.S. by Chappell (1997) under the name PSME-THPL/GASH/POMU. NatureServe (2005) does not currently recognize this association, but will in the near future under the name THPL-PSME-ABGR/MANE/POMU.

MANAGEMENT NOTES: Stands that have not been previously harvested should be considered for conservation status. These sites appear to be moderately productive for tree growth. Non-native English ivy (*Hedera helix*) is probably a threat to this association if it becomes established.

Chappell, C.B. 2006. Upland plant associations of the Puget Trough ecoregion, Washington. Washington Department of Natural Resources, Natural Heritage Program, Olympia, WA. [http://www.dnr.wa.gov/nhp/refdesk/communities/pdf/intro.pdf].